

CLAIMS:

1. A radio frequency tuner comprising: at least one stage of variable power consumption having a performance and a gain which are first and second functions, respectively, of a power consumption; a variable gain arrangement; and a control circuit for controlling said power consumption of said at least one stage and for controlling said variable gain arrangement to compensate at least partly for a variation of said gain of said at least one stage.
2. A tuner as claimed in claim 1, in which said performance comprises a signal corrupting performance.
3. A tuner as claimed in claim 2, in which said performance comprises distortion performance.
4. A tuner as claimed in claim 1, in which said variable gain arrangement comprises a controllable current steering circuit.
5. A tuner as claimed in claim 1, in which said variable gain arrangement comprises a variable load impedance of said at least one stage.
6. A tuner as claimed in claim 1, in which said at least one stage comprises a transconductance stage and said gain is a transconductance thereof.
7. A tuner as claimed in claim 1, in which said at least one stage comprises a controllable current source for controlling said power consumption.
8. A tuner as claimed in claim 1, in which said at least one stage comprises a controllable degeneration impedance.
9. A tuner as claimed in claim 1, in which said performance of said at least one stage is a direction function of said power consumption.

10. A tuner as claimed in claim 1, comprising means for setting said power consumption, said control circuit being responsive to said means for setting said power consumption to achieve a desired tuner performance.
11. A tuner as claimed in claim 10, in which said setting means comprises a comparator for comparing a tuner performance with a first predetermined performance and for causing said control circuit to reduce said power consumption of said at least one stage when said tuner performance exceeds said first predetermined performance.
12. A tuner as claimed in claim 11, in which said comparator is arranged to compare said tuner performance with a second predetermined performance lower than said first predetermined performance and said control circuit is arranged to increase the power consumption of said at least one stage when said tuner performance is less than said second predetermined performance.
13. A tuner as claimed in claim 11, in which said tuner performance is a ratio of signal to noise plus intermodulation products.
14. A tuner as claimed in claim 11, comprising a digital tuner.
15. A tuner as claimed in claim 14, in which said tuner comprises a demodulator and said tuner performance is a bit error rate.
16. A tuner as claimed in claims 11, in which said first predetermined performance is greater than or equal to an acceptable minimum performance.
17. A tuner as claimed in claim 12, in which said second predetermined performance is less than or equal to an acceptable minimum performance.
18. A tuner is claimed in claim 15, in which said bit error rate is an instantaneous bit error rate.

19. A tuner as claimed in claim 15, in which said bit error rate is a time-averaged bit error rate.
20. A tuner as claimed in Claim 15, in which said bit error rate is a combination of an instantaneous bit error rate and a time-averaged bit error rate.
21. A tuner as claimed in claim 11, in which said comparator is arranged to perform a comparison continuously.
22. A tuner as claimed in claim 11, in which said comparator is arranged to perform a comparison periodically.
23. A tuner as claimed in claims 11, in which said comparator is arranged to perform a comparison each time said tuner is powered up.
24. A tuner as claimed in claim 11, in which said comparator is arranged to perform a comparison each time a change of a tuned frequency is requested.
25. A tuner as claimed in claim 10, in which said setting means comprises means for selecting a desired power consumption.
26. A tuner as claimed in claim 25, in which said selecting means is arranged to select said desired power consumption from a plurality of fixed power consumptions.
27. A tuner as claimed in claim 10, in which said setting means comprises a control input of said control circuit.
28. A tuner as claimed in claim 10, in which said setting means is arranged to fix said power consumption during manufacture of said tuner.
29. A tuner as claimed in claim 1, in which said at least one stage comprises at least one frequency changer stage.

30. A tuner as claimed in claim 29, in which said at least one frequency changer stage comprises an image reject mixer.
31. A tuner as claimed in claim 29, in which said at least one frequency changer stage comprises at least one low noise amplifier whose gain is dependent on a power consumption.
32. A tuner as claimed in claim 29, in which said at least one frequency changer stage comprises at least one local oscillator whose power consumption is controllable by said control circuit.
33. A tuner as claimed in claim 1, in which said at least one stage comprises at least one intermediate frequency amplifier.
34. A tuner as claimed in claim 1, comprising a cable tuner.
35. A tuner as claimed in claim 1, formed as a single monolithic integrated circuit.